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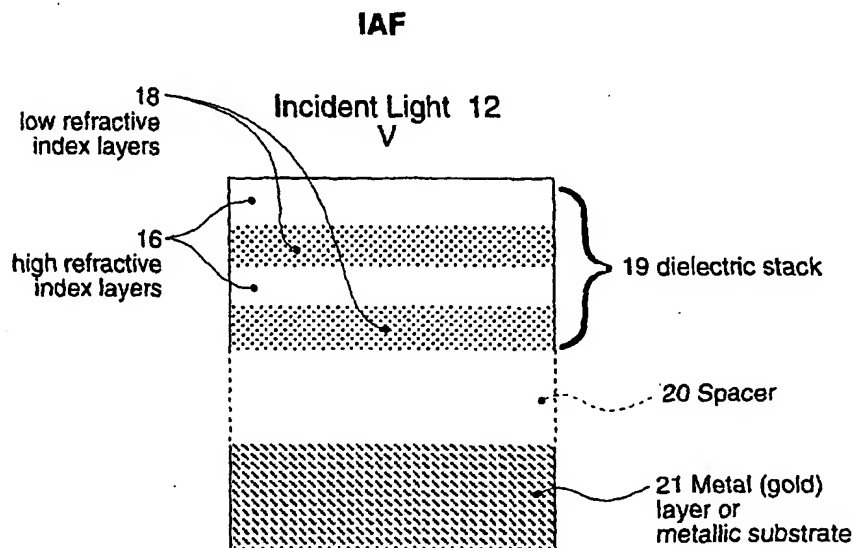
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(54) Title: **INDUCED ABSORPTION FILTER (IAF)**



(57) Abstract: An optical filter uses a multi-layer, stack of alternating dielectric layers (16, 18) of different refractive indices, a dielectric spacer layer (20) and metal layer (21), to achieve a narrow overall absorption bandwidth, with high reflectance upon either side. A tunable (optical) filter variant uses a dielectric stack and spacer coating of spatially-varying thickness, that is a coating of depth varying, say linearly and/or circularly, according to position across an absorbent layer or substrate, whereby, at different positions on the surface, a different wavelength is absorbed. A tunable laser (35) uses opposed tunable filters (26, 28) bounding a lasing medium (38), such as CO₂ gas, for selective variable stimulated emission of radiation (39).

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